

Geometry Unit 4 – Worksheet 3

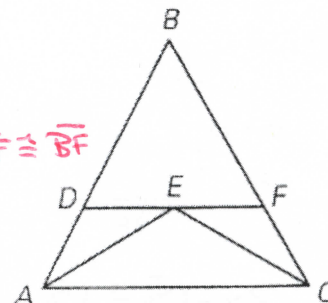
Name: ANSWER KEY

Date: _____ Per: _____

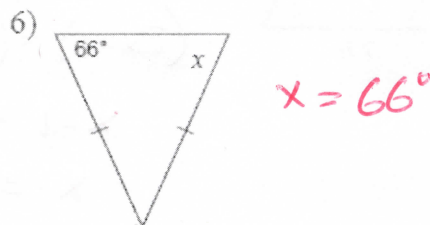
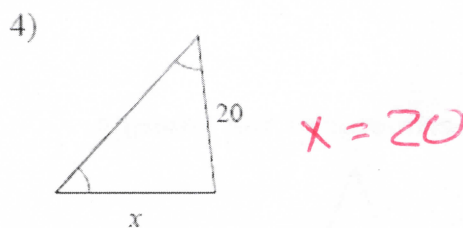
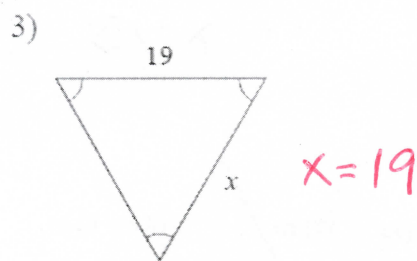
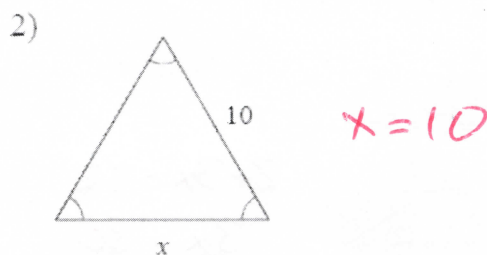
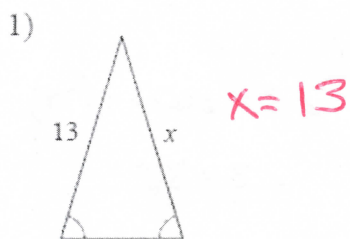
Isosceles and Equilateral Triangles

In Exercises 1–4, use the diagram. Copy and complete the statement. Tell what theorem or corollary you used.

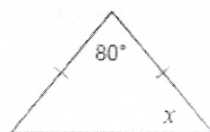
- If $\overline{AE} \cong \overline{CE}$, then $\angle \underline{?} \cong \angle \underline{?}$. $\angle EAC \cong \angle ECF$
- If $\angle DAE \cong \angle DEA$, then $\underline{?} \cong \underline{?}$. $\overline{DA} \cong \overline{DE}$
- If $\angle BDF \cong \angle DBF \cong \angle BFD$, then $\underline{?} \cong \underline{?} \cong \underline{?}$. $\overline{BD} \cong \overline{DF} \cong \overline{BF}$
- If $\overline{AB} \cong \overline{BC} \cong \overline{AC}$, then $\angle \underline{?} \cong \angle \underline{?} \cong \angle \underline{?}$.
 $\angle ABC \cong \angle BCA \cong \angle CAB$



Find the value of x .

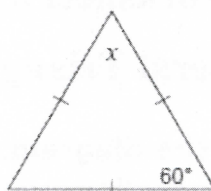


7)



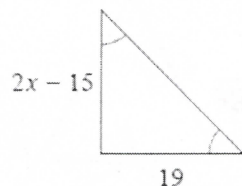
$$x = 50^\circ$$

8)



$$x = 60^\circ$$

11)

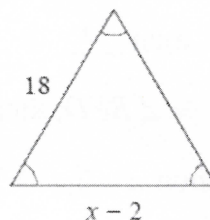


$$2x - 15 = 19$$

$$2x = 34$$

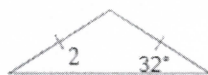
$$x = 17$$

12)



$$x - 2 = 18$$

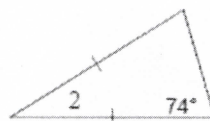
$$x = 20$$

13) $m\angle 2 = 2 + 3x$ 

$$2 + 3x = 32$$

$$3x = 30$$

$$x = 10$$

14) $m\angle 2 = 2x + 6$ 

$$\angle 2 = 180 - 2(74)$$

$$\angle 2 = 32^\circ$$

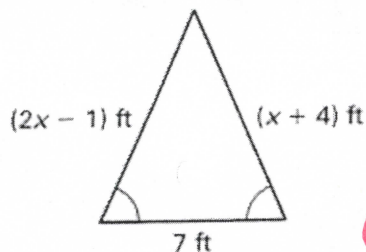
$$2x + 6 = 32$$

$$2x = 26$$

$$x = 13$$

Find the perimeter of the triangle.

17.



$$(2x - 1) = (x + 4)$$

$$x - 1 = 4$$

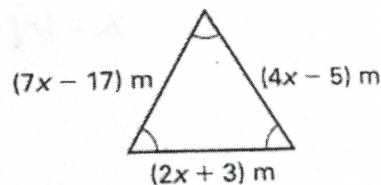
$$x = 5$$

$$P = (2x - 1) + (x + 4) + 7$$

$$= 9 + 9 + 7$$

$$= 25 \text{ ft}$$

19.



$$4x - 5 = 2x + 3$$

$$2x - 5 = 3$$

$$2x = 8$$

$$x = 4$$

$$P = (7x - 17) + (2x + 3) + (4x - 5)$$

$$= 11 + 11 + 11$$

$$= 33 \text{ m}$$